

AMENDMENT

IN THE CLAIMS:

Please amend the claims as follows:

1. (Currently amended) An exhaust treatment device, comprising:

a substrate ~~[[;]]~~ having thereon a 1- catalyst layer, which comprises deposited on the substrate, the catalyst layer comprising a homogenous mixture of a first catalyst metal and a second catalyst metal, which are each deposited as a combined loading, in the absence of selective placement, on both an aluminum oxide and an oxygen storage component on a support forming a homogenous mixed layer of said first catalyst metal and said second catalyst metal,

wherein greater than or equal to about 70 wt% of the first catalyst metal and the second catalyst metal is non-alloyed under alloying conditions, wherein the weight percent is based on a combined weight of the first catalyst metal and the second catalyst metal; and

wherein the first catalyst metal and the second catalyst metal are different and individually selected from the group consisting of platinum, palladium, rhodium, iridium, rhenium, ruthenium, and osmium,

~~wherein the catalyst layer further comprises an aluminum oxide and an oxygen storage component,~~ wherein the aluminum oxide and the storage component have are both meso-porous having average pore diameters of about 150 Å to about 1,000 Å, wherein about 50% to about 80% of the pore volume, based on the total pore volume, comprise pores having average pore diameters of about 180 Å to about 800 Å, and

wherein the oxygen storage component has a stable cubic structure and is represented by the formula $(Ce_aZr_bLa_cY_dPr_eO_x)$, wherein subscripts a, b, c, d, e, and x, represent atomic fractions, and wherein $a + b + c + d + e = 1$.

2. (Original) The exhaust treatment device of Claim 1, wherein the first catalyst metal is palladium and the second catalyst metal is rhodium.

3. (Original) The exhaust treatment device of Claim 2, wherein greater than 90 wt% of the first

catalyst metal and the second catalyst metal is non-alloyed.

4. (Original) The exhaust treatment device of Claim 3, wherein greater than 95 wt% of the first catalyst metal and the second catalyst metal is non-alloyed.

5. (Original) The exhaust treatment device of Claim 2, wherein a weight ratio of the palladium to the rhodium is less than or equal to about 20:1.

6. (Previously presented) The exhaust treatment device of Claim 5, wherein the ratio is about 3:1 to about 15:1.

7-8. (Canceled)

9. (Previously presented) The exhaust treatment device of Claim 1, wherein the aluminum oxide comprises gamma aluminum oxide.

10-11. (Canceled)

12. (Previously presented) The exhaust treatment device of Claim 1, wherein the oxygen storage component comprises $\text{Ce}_{0.376}\text{Zr}_{0.50}\text{La}_{0.086}\text{Pr}_{0.038}\text{O}_{1.95}$ or $\text{Ce}_{0.25}\text{Zr}_{0.65}\text{La}_{0.04}\text{Y}_{0.06}\text{O}_{1.95}$.

13. (Canceled)

14. (Withdrawn, Currently amended) A method of making an exhaust emission control device, including a substrate ~~having thereon~~ having thereon a 1- catalyst layer, which comprises deposited on the substrate, the catalyst layer comprising a homogenous mixture of a first catalyst metal, and a second catalyst metal, as a combined loading an aluminum oxide, and an oxygen storage component on a support forming a homogenous mixed layer of said first catalyst metal and said second catalyst metal,

wherein greater than or equal to about 70 wt% of the first catalyst metal and the second catalyst metal is non-alloyed under alloying conditions, wherein the weight percent is based on a combined weight of the first catalyst metal and the second catalyst metal; and

wherein the first catalyst metal and the second catalyst metal are different and individually selected from the group consisting of platinum, palladium, rhodium, iridium, rhenium, ruthenium, and osmium,

wherein the catalyst layer further comprises an aluminum oxide and an oxygen storage component, wherein the aluminum oxide and the storage component have average pore diameters of about 150 Å to about 1,000 Å, and

wherein the oxygen storage component is represented by the formula $(Ce_aZr_bLa_cY_dPr_eO_x)$, wherein subscripts a, b, c, d, e, and x, represent atomic fractions, and wherein $a + b + c + d + e = 1$; the method comprising:

forming a slurry by sequentially depositing the first catalyst metal and the second catalyst metal, each as a combined loading, in the absence of selective placement, on both the aluminum oxide and the oxygen storage component, wherein the aluminum oxide and the oxygen storage component are both meso-porous having average pore diameters of about 150 Å to about 1,000 Å, wherein about 50% to about 80% of the pore volume, based on the total pore volume, comprise pores having average pore diameters of about 180 Å to about 800 Å, and wherein the oxygen storage component has a stable cubic structure and is represented by the formula $(Ce_aZr_bLa_cY_dPr_eO_x)$, wherein subscripts a, b, c, d, e, and x, represent atomic fractions, and wherein $a + b + c + d + e = 1$, mixing a palladium salt, a rhodium salt, an aluminum oxide, and said oxygen storage component together to form a slurry;

depositing the slurry on a substrate to form a washcoated substrate; and

calcining the washcoat plus substrate to form a catalyst layer on the substrate, wherein greater than or equal to about 70 wt% of the palladium and rhodium in the catalyst layer is non-alloyed under alloying conditions, wherein the weight percent is based on a total weight of the ~~palladium and rhodium~~ first catalyst metal and the second catalyst metal in the catalyst.

15. (Withdrawn) The method of Claim 14, wherein greater than 95 wt% of the first catalyst metal

and the second catalyst metal is non-alloyed.

16. (Withdrawn) The method of Claim 14, wherein a weight ratio of the palladium to the rhodium is less than or equal to about 20:1.

17. (Withdrawn) The method of Claim 16, wherein the ratio is about 3:1 to about 15:1.

18–19. (Canceled)

20. (Withdrawn) The method of Claim 14, wherein the aluminum oxide comprises gamma aluminum oxide.

21–22. (Canceled)

23. (Withdrawn) The method of Claim 14, wherein the oxygen storage component comprises $\text{Ce}_{0.376}\text{Zr}_{0.50}\text{La}_{0.086}\text{Pr}_{0.038}\text{O}_{1.95}$ or $\text{Ce}_{0.25}\text{Zr}_{0.65}\text{La}_{0.04}\text{Y}_{0.06}\text{O}_{1.95}$.

24. (Withdrawn) The method of Claim 14, wherein the oxygen storage component has a stable cubic structure.

25. (Currently amended) ~~An~~ The exhaust treatment device of Claim 1, comprising:

a substrate;

a catalyst layer deposited on the substrate, the catalyst layer being a homogenous mixed layer comprising palladium, rhodium, an aluminum oxide, and an oxygen storage component, wherein the aluminum oxide and the oxygen storage component have average pore diameters of about 150 angstroms to about 1,000 angstroms, wherein about 50% to about 80% of the pore volume, based on the total pore volume comprise pores having average pore diameters of about 180 angstroms to about 800 angstroms, wherein greater than or equal to about 70 wt% of the palladium and rhodium is non alloyed under alloying conditions, wherein the weight percent is

based on a combined weight of the palladium and the rhodium;

wherein the oxygen storage component is represented by the formula $(Ce_aZr_bLa_cY_dPr_eO_x)$, wherein subscripts a, b, c, d, e, and x, represent atomic fractions, wherein $a + b + c + d + e = 1$; wherein the first catalyst metal is palladium and the second catalyst metal is rhodium and a is from 0.01 to 0.6, and the exhaust treatment device further comprises

a retention material disposed around the substrate to form a subassembly; and
a housing disposed around the subassembly.

26. (Previously presented) The exhaust treatment device of Claim 1, wherein:

a has a value of about 0.01 to about 0.6;
b has a value of less than or equal to about 0.95;
c has a value of less than or equal to about 0.15;
d has a value of less than or equal to about 0.15;
e has a value of less than or equal to about 0.15; and
x has a value less than or equal to about 2.0.

27. (Currently amended) ~~An~~ The exhaust treatment device of Claim 1, comprising:

a substrate;

~~a 1 catalyst layer deposited on the substrate from a slurry, comprising a first catalyst metal and a second catalyst metal, aluminum oxide and an oxygen storage material to form a wash coat on said substrate, wherein greater than or equal to about 70 wt% of the first catalyst metal and the second catalyst metal in said 1 catalyst layer is non-alloyed under alloying conditions, wherein the weight percent is based on a combined weight of the first catalyst metal and the second catalyst metal; and~~

wherein the first catalyst metal and the second catalyst metal together form a homogenous mixed layer and are different and individually selected from the group consisting of platinum, palladium, rhodium, iridium, rhenium, ruthenium, and osmium;

wherein the catalyst layer further comprises an aluminum oxide and an oxygen storage component, wherein the aluminum oxide and the storage component have average pore diameters

of about 150 Å to about 1,000 Å, and wherein 50% to 80% of the pore volume based on total pore volume comprise pores having average pore diameters of 180 Å to 800 Å;

wherein the oxygen storage component is represented by the formula $(Ce_aZr_bLa_cY_dPr_eO_x)$, wherein subscripts a, b, c, d, e, and x, represent atomic fractions, and wherein $a + b + c + d + e = 1$ and a range wherein a ranges from 0.01 to 0.6.

28. (Currently amended) ~~A~~ The exhaust treatment device of Claim 1, comprising:

a substrate;

a 1 catalyst layer deposited from a slurry onto the substrate to form a washcoated substrate, the catalyst layer comprising wherein the first catalyst metal is palladium as a first catalyst metal and the second catalyst metal is rhodium as a second catalyst metal as a combined loading on a support as a homogenous mixed layer of Pd/Rh, wherein greater than or equal to about 70 wt% of the first catalyst metal and the second catalyst metal is non alloyed under alloying conditions, wherein the weight percent is based on a combined weight of the first catalyst metal and the second catalyst metal; and

wherein the catalyst layer further comprises an aluminum oxide and an oxygen storage component, wherein the aluminum oxide and the storage component have average pore diameters of about 150 Å to about 1,000 Å, and

wherein the oxygen storage component is represented by the formula $(Ce_aZr_bLa_cY_dPr_eO_x)$, wherein subscripts a, b, c, d, e, and x, represent atomic fractions, and wherein $a + b + c + d + e = 1$;

said homogenous mixed layer formed from said slurry comprising and the homogenous mixture further comprises a palladium salt~~{,}~~ and a rhodium salt, aluminum oxide and said oxygen storage component.